

# DLC COATING

## Datasheet

### What is DLC?

DLC is an acronym for "diamond like carbon". As this name implies DLC offers some of the outstanding properties of diamond.

### The properties of DLC include, in particular:

- Extremely high hardness,,
- High abrasion resistance,
- Prevents cold welding in aluminium components,
- Low coefficient of friction,
- Optical transparency from ultraviolet (225 nm – rainbow colours) to far infrared,
- Chemical resistance,
- Biocompatibility,
- Extremely high thermal conductivity (5 times higher than that of copper).



Properties	Ta-C
Hydrogen containing	No
Color	Rainbow
Hardness [HV]	~ 2.000
Thickness [µm]	0.2 - 1.0
Coefficient of friction against steel, dry	0.15 - 2
Surface roughness Rz [µm]	<1
Area of application	Aluminium, tin, zinc, copper Positioning/locating aluminium components High wear on positioning pins due to aluminium components Wherever process reliability and long life cycles are important

### Coating process:

The carbon layer is coated by PVD (engl. Physical Vapor Deposition; Physical vapour deposition for example by evaporation or sputtering) at the locating pin.

### Test results:

**Installation location:** Body shell construction (Body in White)

**Cycles:** >700.000

**Workpiece material:** Aluminium / aluminium die casting

**Locating pin material:** EN 1.7242



Ta-C (Rainbow)